

author to run in opposite directions, which he subsequently saw was not the case,—their direction is the same. This error he corrected in Müller's Archiv for 1850.

The author remarks, that observers in their endeavours to reach the *ultimate* structure of the muscular fibril have actually gone too far, and reached a later generation,—mistaking for the fibril a row of quadrilateral particles, the mere elements thereof. These particles, he observes, are known to be alternately light and dark in alternate order; they give origin to the term spirals; and for this purpose the dark particles undergo what observers have entirely overlooked, division and subdivision, which changes he has figured in Müller's Archiv, 1850. The preparation in which he has again met with the subdivision into four is still, the author states, in his possession for demonstration to others.

2. "On the penetration of Spermatozoa into the interior of the Ovum; a Note showing this to have been recorded as an established fact in the Philosophical Transactions for 1843." By Martin Barry, M.D., F.R.S., F.R.S.E. Received February 24, 1853.

Referring to a statement by Dr. Nelson, in a paper "On the reproduction of the *Ascaris Mystax*," that the investigations in that paper "appear to be the first in which the fact of the penetration of spermatozoa into the ovum has been distinctly seen and clearly established in one of the most highly organized of the Entozoa," the author of the present communication remarks, that when Dr. Nelson made this statement he was evidently not aware of what had been published on the subject. In proof of this Dr. Barry refers to his own paper, entitled "Spermatozoa observed within the Mammi-ferous Ovum" (Phil. Trans. 1843, p. 33), in which he states that he had met with ova of the Rabbit containing a number of spermatozoa *in their interior*; and to the Edinburgh New Philosophical Journal for October 1843, which contains a drawing in which seven spermatozoa are represented in the interior of an ovum, besides the statement that in one instance he had counted more than twenty spermatozoa in a single ovum. In conclusion he remarks, that Dr. Nelson merely added a further confirmation in ova of an entozoon, to what his own researches on mammiferous ova had enabled him to record as an established fact nine years before.

The Society then adjourned to the 7th of April.

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April 7, 1853.

COLONEL SABINE, R.A., Treas. & V.P., in the Chair.

A paper was read, entitled "Observations on the Anatomy of the Antennæ in a small species of Crustacean." By John D. McDonald, M.D., Assistant Surgeon to H.M.S.V. Torch. Communicated by

Sir William Burnett, F.R.S., Director-General of the Medical Department of the Navy. Received March 3, 1853.

The little crustacean which is the subject of this paper was taken in considerable numbers in the voyage from St. Vincent to Rio Janeiro. There are several anatomical peculiarities mentioned, but the most remarkable is the structure of the right antenna of the male. These organs are in the female perfectly symmetrical, and resemble that of the left side in the male; and although in the very young state of the latter sex the right antenna differs but little in external appearance from the left, yet the peculiar hypertrophied condition of the modified segments in the corresponding organ of the adult male is to be distinctly traced in a rudimentary state.

As the animal lives in the open ocean, none of the limbs are adapted for walking; but when placed in a vessel of sea-water, they rested upon their antennæ on reaching the bottom, and paddled themselves about by their fore-limbs and tail.

The author remarks that in all their movements the males exhibit a tendency to turn towards the left side, and concludes the rationale of this fact to be, that the brain on the right side being more developed at the part from which the right antenna derives its nerves, a corresponding predominance is given to the power of the locomotive organs on that side.

When fully developed, each antenna in both sexes consists of twenty-five segments. Of these, the first thirteen present nothing remarkable; but all the remaining pieces on the right side enter into the composition of the curious prehensile organ which forms the principal subject of the paper.

This organ is composed in the following manner:—The fourteenth and four following segments are dilated into a large flask-like organ, the neck of which is eked out by the nineteenth and twentieth. The next two segments are fused together, and are articulated with the foregoing by a simple joint, and the whole of the remaining segments form another piece similarly articulated with the intermediate piece; so that the whole results in two simple joints susceptible of flexion in one direction only. On the eighteenth segment is a barbed process having its apex directed backwards, and its anterior border beset with sharp teeth. Two processes of the same nature, but differently placed and more elongated, lie side by side upon the fore-part of the first compound segment. This piece and that which succeeds it act upon each other like a pair of jaws, each furnished with an array of sharp conical teeth, while the last compound member of the series plays over the upper surface of the eighteenth segment.

The author then proceeds to describe the muscles which move this complex apparatus. The extensors are small and feeble, but the flexors are, as might be anticipated, more complex and powerful. They are two in number. The first has its origin in the large flask-like dilatation, and is inserted by a tendon into the second compound piece, from which the second muscle arises, and is inserted, also by tendon, into the third piece. The paper is illustrated by elaborate drawings.